## REMARKS

Claims 1-20 are pending in the present application. Reconsideration of the claims is respectfully requested.

### I.    35 U.S.C. § 103(a), Alleged Obviousness, Claims 1-20

The Office Action rejects claims 1-20 under 35 U.S.C. § 103(a) as being unpatentable over Watkins (U.S. Patent No.5,486,111). This rejection is respectfully traversed.

As to claims 1 and 4, the Office Action states:

> As to claims 1 and 4, Watkins teaches a method for gauging the translation accuracy of a translator, comprising the steps of:
> Providing a teaching aid which presents the source to target and target to source translations in a sequential manner such that both accurate translation from a first language to a second language and the translation from the second language back to a first language are compared to identify the level of accuracy of the translation (abstract; Col. 2, lines 15-24; Figs 1-4). It is noted that, Watkins doesn't explicitly teach having iteration threshold, however one of ordinary skill in the art will appreciate the advantage of having iteration threshold for the simple reason of setting a condition where the back and forth translation is limited.

Office Action dated September 16, 2004, page 2.

The Office bears the burden of establishing a *prima facie* case of obviousness based on the prior art when rejecting claims under 35 U.S.C. § 103. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). For an invention to be prima facie obvious, the prior art must teach or suggest all claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Independent claim 1, which is representative of claims 10 and 19 with regard to similarly recited subject matter, recites:

> 1.    A method for measuring quality of machine translation, comprising:
> receiving an original source language text;
> repeatedly translating and retranslating the original source language text between the source language and a target language until a current source language text is not reasonably equivalent to the original source language text or until an iteration threshold is reached; and

> identifying the translation as low quality if the current source language
> text is not reasonably equivalent to the original source language text.
> (emphasis added)

Watkins does not teach or suggest the features emphasized above.  As discussed in the Abstract, Watkins teaches a language translation teaching aid and method that comprises a first presentation of a line of words, a phrase, or a sentence in a first language according to its normal rules of syntax and grammar; a second presentation in a second language of a word-for-word translation of the words, a phrase, or a sentence presented in the first language; a third presentation in the second language of an accurate translation of the first presentation according to the normal rules of syntax and grammar of the second language; and a fourth presentation in the first language of a word-for-word translation of the third presentation in the second language.

However, Watkins does not teach or suggest repeatedly translating and retranslating original source language text between a source language and a target language until a current source language text is not reasonably equivalent to the original source language text or until an iteration threshold is reached.  The Office Action alleges that Watkins teaches these features at column 2, lines 15-24, which reads as follows:

> It is a further object of the invention to provide a teaching aid
> which  displays, or otherwise presents, the source to target and target to
> source translations in a sequential manner, such as through successive
> audio recitations, video screens, CRT displays or pages, so that both word
> for word translations and accurate translations from a first language into a
> second language and translations from the second language into the first
> language are available to the user within a short time period for easy
> comparison and understanding of the applied translation rules. (emphasis
> added)

In the above section, Watkins merely teaches that translations are made between a first and a second language for the user to easily compare translations and understand the applied translation rules.  Watkins does not teach translating and retranslating until a current source language text is not reasonably equivalent to the original source language text or until an iteration threshold is reached.  Watkins does not teach or suggest until when or to what condition translations will terminate, because Watkins is not interested

in identifying the accuracy of the translations between the source and the target language, as alleged by the Office Action.

To the contrary, as described at column 4, lines 17-30, Watkins is interested in presenting an entire paragraph or story in which the title, phrases, or sentences are set forth sequentially in groups with each group including first, second, third and fourth presentations consistent with each of the other groups for the ease of understanding of the translations being made, whether they are word-for-word translations or proper grammar and syntax translations, so that understanding is facilitated and teaching is thereby aided. Therefore, Watkins has no need to specify until when or to what condition translations will terminate, because Watkins merely focuses on a teaching aid that presents four presentations for users to understand the translations and rules associated with the translations, as opposed to identifying the accuracy of the translations as alleged by the Office Action.

**Figure 1** of Watkins, which describes the four presentations, is shown below:



FIG. 1
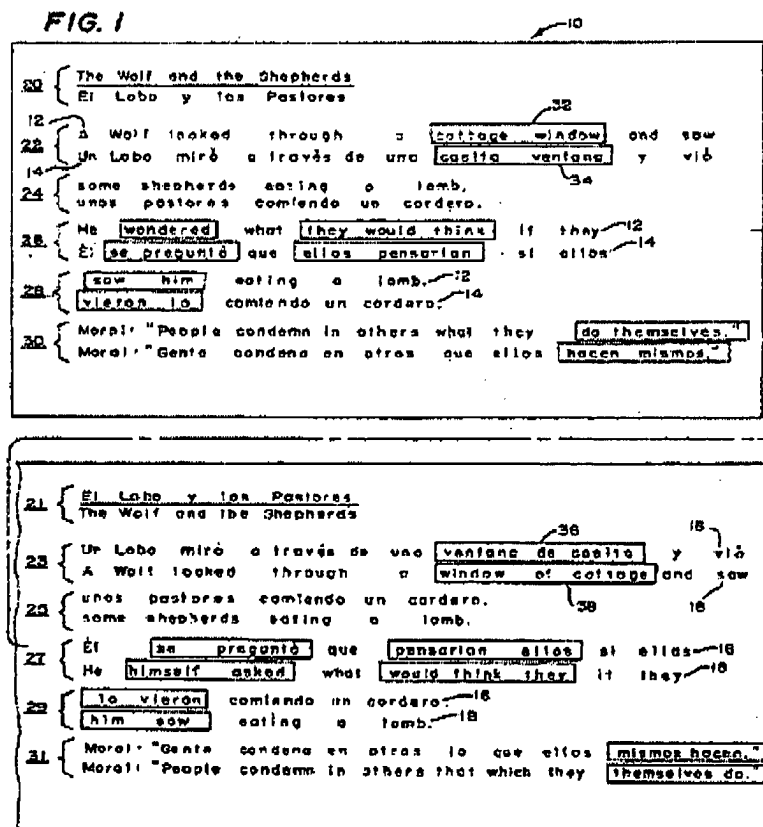
As shown in **Figure 1**, Watkins teaches a first presentation 12 with a group of words that is presented in a first language and a second presentation 14 with a word-for-word translation presented in a second language. The second presentation 14 follows closely with the presentation of the first language and is aligned word-for-word for increased understanding of the translation of each word being presented. Also shown in **Figure 1**, Watkins teaches a third presentation 16 of an accurate and grammatically correct translation of the first presentation 12 and is arranged correspondingly with the · first presentation for ease of understanding of the translation being made. A fourth presentation 18 of a word-for-word translation of the third translation from the second language to the first language is made. This fourth presentation is also aligned with the third presentation in the same fashion as the first and second presentations. (Column 3, line 40 to column 4, line 15)

Thus, Watkins teaches a teaching aid that presents translations between a first language and second language sequentially using four presentations for the ease of user understanding of the translations that are being made. There is no condition specified as to when the translations will terminate. This is contrary to the presently claimed invention, which repeatedly translates and retranslates between a source and a target language until a current source language text is not reasonably equivalent to the original source language text or until an iteration threshold is reached, such that the quality of the translation may be determined for each iteration of the translations. Therefore, Watkins does not teach or suggest repeatedly translating and retranslation until a current source language text is not reasonably equivalent to the original source language text or until an iteration threshold is reached, as recited in claims 1, 10, and 19 of the present invention.

In addition, Watkins does not teach or suggest an iteration threshold, as recited in claims 1, 10, and 19 of the present invention. The Office Action admits that Watkins does not explicitly teach an iteration threshold, but the Office Action alleges that one of ordinary skill in the art will appreciate the advantage of having iteration threshold for the simple reason of setting a condition where the back and forth translation is limited. Applicants respectfully disagree.

There is no teaching or suggestion of an iteration threshold in Watkins. At column 4, line 47 to column 5, line 8, Watkins teaches that the presentation of the

teaching aid may be made in multiple volumes. The phrases and sentences on each of the corresponding pages in the volumes also correspond in arrangement, order, numbering and/or lettering, so that it performs a function of teaching aid giving the user easy access to both the word-for-word translation and the grammatically and syntactically correct translation as desired.

However, nowhere in the above section, or any other section, of the reference does Watkins teach or suggest an iteration threshold. Watkins is not interested in keeping track of the number of translations performed in order for the user to understand the translations and the translation rules. Watkins merely arranges the presentation of the translations in a number of volumes that best aids the user in learning the rules and art of translations between various languages. Watkins does not even have the need for an iteration count, because Watkins is not interested in determining the number of translations to be performed by the teaching aid. Watkins is only interested in presenting the translations in a manner that best aids the user in learning the translation and associated translation rules. Therefore, a person of ordinary skill in the art would not have been motivated to modify Watkins' teaching to arrive at an iteration threshold, because there is simply no teaching or suggestion in Watkins to keep track of the number of translations or to set a condition to limit the number of translations, as alleged by the Office Action.

Furthermore, Watkins does not teach or suggest identifying the translation as low quality if the current source language text is not reasonably equivalent to the original source language text, as recited in claims 1, 10, and 19 of the present invention. Nowhere in the reference does Watkins identify the quality of the translation between the source language and the target language. As discussed in the Abstract, Watkins teaches a second presentation in a second language that is a "word-for-word translation" of the words, phrases or a sentence presented in the first language, and a third presentation in the second language of an "accurate translation" of the first presentation according to the normal rules of syntax and grammar of the second language. At column 3, lines 5-15, Watkins teaches that an "accurate translation" or a "correct translation" is one that conveys a meaningful translation using appropriate syntax and grammar for each language used. The degree of accuracy and correctness may vary depending upon the

skills of the teacher or manufacturer of the teaching aid. Watkins further teaches that the concept of "accurate translation" is distinguishable from the word-for-word translation which does not focus on the contextual meaning of the proper application of rules of syntax and grammar.

Thus, Watkins merely translates either "word-for-word" from a first language to a second language or "accurately translates" from a first language to a second language based on the proper rules of syntax and grammar. Watkins does not identify the translation as low quality between a source language and target language if the current source language text is not reasonably equivalent to the original source language text. In fact, Watkins is not interested in how reasonably equivalent the translation is between the first and the second language. Rather, Watkins is only interested in translating "word-for-word" or according to the rules of syntax and grammar, so that the user may understand the translation and the rules of syntax and grammar. Therefore, Watkins also does not teach or suggest identifying the translation as low quality if the current source language text is not reasonably equivalent to the original source language text, as recited in claims 1, 10, and 19 of the present invention.

In view of the above, Applicants respectfully submit that Watkins does not teach or suggest the features of claims 1, 10, and 19. At least by virtue of their dependency on claims 1 and 10 respectively, Watkins does not teach or suggest the features of dependent claims 2-3, and 11-12. Accordingly, Applicant respectfully requests the withdrawal of the rejection of claims 1-3, 10-12, and 19 under 35 U.S.C. § 103(a).

Independent claim 4, which is representative of claims 13 and 20 with regard to similarly recited subject matter, recites:

4.    A method for measuring quality of machine translation, comprising:
a)    receiving an original source language text $SHLx_0$;
b)    <u>setting a counter i to zero</u>;
c)    performing machine translation on source language text $SHLx_i$ to form target language text $THLy_i$;
d)    performing machine translation on target language text $THLy_i$ to form source language text $SHLx_{i+1}$;
e)    <u>increment i by one</u>; and
f)    <u>repeat steps (c) through (e) until $SHLx_i$ is not reasonably equivalent to $SHLx_0$ or until i reaches an iteration threshold</u>. (emphasis added)

Watkins does not teach the features emphasized above. Nowhere in the reference does Watkins teach or suggest setting a counter i to zero, or incrementing i by one after c) performing machine translations on source language text to form target language text and d) performing machine translation on target language text to form source language text.

As discussed in arguments presented for claims 1, 10, and 19, Watkins is not interested in